

Integration and Cooperation in the Next Golden Age of Human Space Flight
Data Repositories: Tools for Retrospective Analysis and Future Planning

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As NASA transitions from the Space Shuttle era into the next phase of space exploration, the need to ensure the capture, analysis, and application of its research and medical data is of greater urgency than at any other previous time. In this era of limited resources and challenging schedules, the Human Research Program (HRP) based at NASA's Johnson Space Center (JSC) recognizes the need to extract the greatest possible amount of information from the data already captured, as well as focus current and future research funding on addressing the HRP goal to provide human health and performance countermeasures, knowledge, technologies, and tools to enable safe, reliable, and productive human space exploration. To this end, the Science Management Office and the Medical Informatics and Health Care Systems Branch within the HRP and the Space Medicine Division have been working to make both research data and clinical data more accessible to the user community.

The Life Sciences Data Archive (LSDA), the research repository housing data and information regarding the physiologic effects of microgravity, and the Lifetime Surveillance of Astronaut Health Repository (LSAH-R), the clinical repository housing astronaut data, have joined forces to achieve this goal. The task of both repositories is to acquire, preserve, and distribute data and information both within the NASA community and to the science community at large. This is accomplished via the LSDA's public website (<http://lsda.jsc.nasa.gov>), which allows access to experiment descriptions including hardware, datasets, key personnel, mission descriptions and a mechanism for researchers to request additional data, research and clinical, that is not accessible from the public website. This will result in making the work of NASA and its partners available to the wider sciences community, both domestic and international. The desired outcome is the use of these data for knowledge discovery, retrospective analysis, and planning of future research studies.